PNR-1000

Advanced Personal Networking Radio – Full – duplex voice conferencing, data and video

Elbit Systems™
Land and C4I

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Part of the **E-LynX™ family**, the SDR PNR-1000 IP radio is the ultimate solution for armed forces who wish to provide their dismounted soldiers with advanced communication technology. The radio offers 64-member ad-hoc networking including automatic voice and data relay, significantly enhancing the soldier's situational awareness and operational effectiveness. As the newest generation of personal networking radios (PNR) at the full NATO RF spectrum 225-512 MHz, the PNR-1000 is the lightest of its kind in the market.

Highly reliable communication

Utilizing proven, self-synchronizing technology, the PNR-1000's dynamic network architecture eliminates the need for a central control unit or master station with no point of failure. The PNR-1000 uses sophisticated protocol for media access, with a unique self-synchronization technique. This enables each radio to automatically and rapidly synchronize to any other transmitting radio that is identified as operating in the same network, without the use of an external synchronization source. The PNR-1000's unique technology maximizes communications dependability and range while minimizing the network's vulnerability.

A software-defined radio designed to meet changing operational needs

The software-based, high-computational power radio platform supports the implementation of multiple applications at a very cost-effective price. The radio's advanced capabilities are made available by the use of the latest, most advanced technology, including powerful microprocessors, enabling migration of future waveforms and new characteristics.

Special features and customization options

- IP Radio - Standard LAN interface
- Efficient bandwidth for voice and data – 200 KHz
- Output power 2W, 10W vehicular configuration
- Simultaneous voice, data and video communications
- Conference / full-duplex
- Hierarchical networks with flexible network configuration
- Ad-hoc networking – up to 64 members
- Voice and data supporting IP networking
- Automatic voice relay
- Embedded GPS with Automatic GPS Reports
- AES 256 encryption based on FIPS 197 standard
- Simple HMI voice indications (multi-language support)
- High-power efficiency: 12 operational working hours
- Wireless PTT (optional)
- Connectivity to additional devices (Vehicular amplifier, radio, intercom, personal computer, eyepiece, etc.)

Connecting PNR-1000 to an intercom system enables the soldiers to dismount from the vehicle and move freely with full connectivity. The system provides intra-team wireless conferencing communications, as well as interconnectivity to long-range VHF/HF/UHF networks, via the vehicle's mounted tactical radios.

As an option the radio can be connected to vehicular configuration with 10 w amplifier for extended range.

- Voice & Data/Video simultaneously
- MANET supporting 64 network members
- Automatic voice relay
- AGPSR over the Network
- Essential building block for the dismounted soldier

Based on Tadiran Communications combat proven Radio Technology

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Main Technical Specifications

General	
Frequency Band	225 to 512 MHz
Bandwidth	100/200 kHz
Output Power	3 levels: LOW 0.5 W, MID 1 W, HIGH 2 W, 10W vehicular
Voice	CVSD/VOCODER
Preset Channels	225 (15 banks of 15 channels each)
Built-In Test (BIT)	Start-up, on-line and operator initiated
Power	8-16 V Li-Ion rechargeable battery
Ad-hoc Networking	Up to 64 members, supporting multi hops, Self-forming, self-healing
Automatic Voice Relay	Supporting multi hops
Interfaces	
Rate	High Data Rates – up to 320 Kbps
Voice Communications	Full duplex communications conference with up to 6 simultaneous speakers. Double PTT solution enables dynamic network hierarchy
AGPSR	Embedded GPS with automatic GPS report
Encryption	AES 256 per FIPS 197
Synchronization	Automatic self-synchronization, no master station nor GPS required
Late Entry Synchronization	Automatic, no special procedures required
WPTT (optional)	Embedded Wireless PTT
Dimensions: H x W x D Weight Volume	 120 x 72 x 26 mm Less than 360 grams 225 cc
MIL-STD Environmental EMC	 MIL-STD-810 MIL-STD-461
Maintenance MTBF	 Greater than 10,000 hours

E-LynX™ Networking the Battlefield

A Mobile Communication solution for tactical joint Battle Groups Based on family of Advanced Multi-Band-Channel-Waveform SDR Platforms

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